The Androgen Warp

by The Facts & Reason Substack

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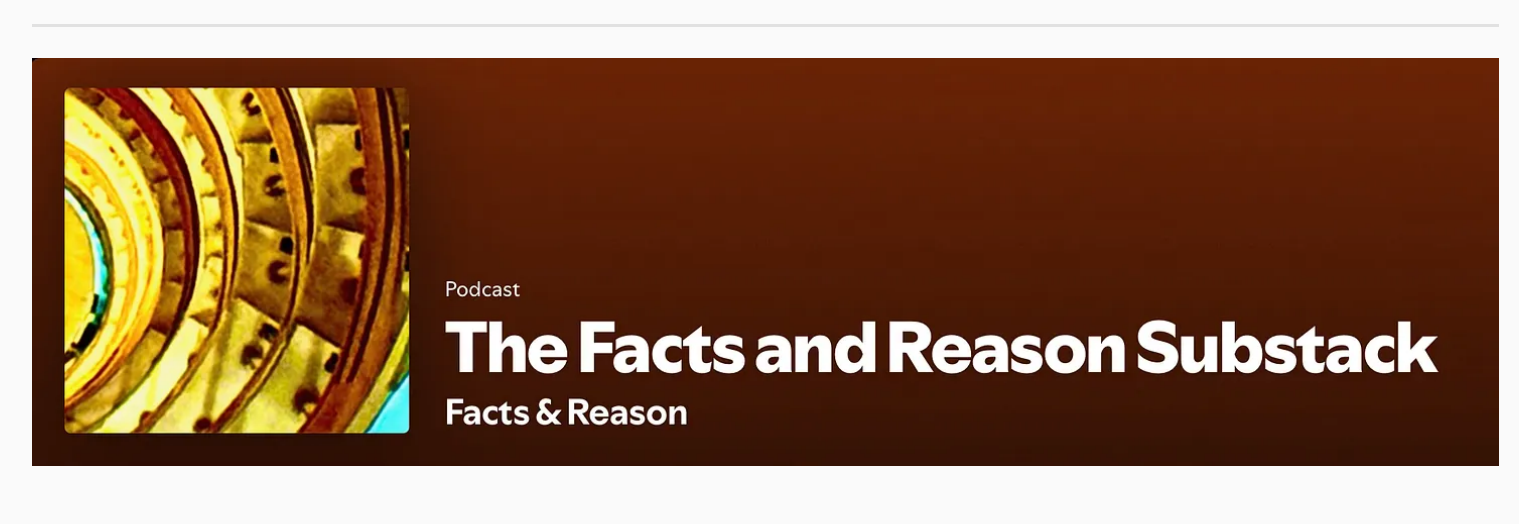
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How rising testosterone misuse is reshaping behavior, institutions, and elections

America is in the midst of a testosterone boom. The use and abuse of testosterone and related anabolic steroids has exploded, moving far beyond the gym or clinic to become a cultural and political force. These potent psychoactive hormones heighten aggression, irritability, risk-taking, and impaired judgment, and their spread through telehealth "TRT" clinics, black-market supply chains, and influencer culture is reshaping male behavior on a mass scale.

The effects are visible in public life. Across Trump's entourage and fan base, in segments of law enforcement, and within the military, widespread androgen use has helped normalize a politics of dominance and hostility. The belligerent, combative style now ascendant in American leadership reflects the chemistry that fuels it and coincides with unprecedented threats against judges and legislators as well as measurable surges in public aggression.

Emerging evidence shows that even modest elevations of testosterone can alter mood, decision-making, and political preference. Scaled to a population level, such changes may already be influencing elections and governance. This essay argues that testosterone misuse has become a destabilizing, under-recognized driver of population-wide behavior and calls for measures such as disclosure, testing, and accountability to confront a pharmacological force that is warping the nation's political temperament.

Also available on Spotify.

1. Testosterone and its derivative anabolic androgenic steroids (testosterone/AAS) are highly psychoactive, with a wide and variable range of behavioral effects.

Testosterone is an anabolic androgenic steroid (AAS), the archetypal molecule of its class; many synthetic variants of testosterone have been produced to alter the pharmacokinetics (e.g. absorption and timing of dosing, body distribution) or to reduce detectability (e.g. in drug-testing regimens). (Note that "corticosteroids", sometimes also called "steroids", are a different class, with much different biological effects, notably against inflammation.)

There are several medical conditions that cause abnormally low testosterone production by the testes, for which testosterone replacement therapy is uniquely helpful and can have profound benefits. Testosterone/AAS are primarily delivered through self-administered injections, but also as topical gels and creams, implanted slow-release pellets, oral pills and nasal gels.

As men age, their levels of endogenous testosterone typically begin to decline after the age of 30. This decrease can lead to symptoms like reduced muscle mass, fatigue, lower libido, and mood changes. Testosterone replacement therapy (TRT) can be used to counter these effects by restoring testosterone to more youthful levels, but carries with it a variety of risks and should only be undertaken with proper monitoring and medical oversight.

The side effects of testosterone/AAS are highly variable from individual to individual and usually dose-dependent; the potential side effects include mood alteration and other psychological changes (see below), acne (prompting some to grow a beard to conceal it), infertility (often reversible, but sometimes not), testicular atrophy, hypertension, excess red blood cell production (and accompanying facial redness), gynecomastia, a swollen face, ankle swelling, and several others.

Testosterone is a Schedule III controlled substance in the U.S., and illegal to use without a prescription. All other anabolic steroids are illegal, except for a few that are available under a prescription for specific medical maladies. Penalties for offenses related to Schedule III controlled substances commonly include imprisonment.

A growing body of research is revealing the psychoactive effects of testosterone/AAS

A double-blind, placebo-controlled study of a single injection of testosterone showed that "testosterone causes both prosocial and antisocial status-enhancing behaviors in human males", and that "participants treated with testosterone were more likely to punish" their counterpart in an economic game. They also found that "testosterone indeed potentiates aggressive responses to provocation".

In a 6-week placebo-controlled, double-blind study of supraphysiologic doses of testosterone in normal men, testosterone treatment significantly increased several measures of manic and aggressive symptoms, but the effects were highly variable between individuals.

Administration of a modest dose of testosterone to males was shown to shift simulated investment decisions towards riskier assets.

Another laboratory study tested the effects of an intranasal testosterone gel, which increased blood testosterone levels to the high-normal range within 15 minutes. The researchers found that "testosterone rapidly (within 30 min) increased aggressive behaviour in young men (n = 308), an effect that was particularly pronounced among men with high-risk personality profiles".

A former special operations officer in the U.S. military says [at 11min 10sec] "I've seen people who I thought were good decent human beings, and when they're on testosterone they're completely alternative people; they were angry all the time, they made irrational decisions." His perception is supported by research: a 2017 placebo-controlled study in 243 subjects found that "Single dose testosterone administration impairs cognitive reflection in men", "indicating a decreased ability to override false intuitive judgments with deliberate correct responses".

If a single modest dose of testosterone can diminish cognitive reflection, it is reasonable to ask whether sustained administration of testosterone has an even more pronounced effect. If the diminishment were present in a significant portion of the population, it might be expected that the overall cognitive reflection capabilities of the population would in turn be diminished. Even if only a low proportion of the population had impaired cognitive reflection, they could have an outsized influence on the broader population, given how rapidly caustic falsehoods and errors in judgment can be spread and algorithmically amplified by social media.

"Testosterone Replacement Therapy"

One of the drivers of testosterone use in the U.S. is for testosterone replacement therapy, which in its medically supervised form is intended to bring an abnormally low testosterone up to the "normal" range, which is not rigorously defined. Often the dosing either requested by the patient or offered by the doctor leads to higher-than-normal levels. Some in the field call this "sports TRT" [at 3min 14sec]. Even those on genuine "TRT" can experience psychological effects, especially when dosing is improper or irregular. Reports abound of recommendations of dosing levels being more than 10-fold different from doctor to doctor for the same patient. Many doctors who prescribe testosterone are poorly informed or inexperienced regarding this type of therapy.

According to an expert on the subject, there are lots of clinics "that are technically 'TRT clinics' but they'll give you double or triple the normal amount" [at 5min 35sec].

The same expert cautions that even on TRT, "Your mood can swing up and down with injections" [9min 6sec]. Injected testosterone is supposed to gradually diffuse from the depot site, but there is always a small amount that enters the bloodstream directly; the result is that "If you inject twice a week, or oftentimes TRT is done once a week, right after that injection you're going to be like, more anger prone, more irritable, more frustrated…" [at 9min 38sec]. "Some doctors will prescribe you a very top-end [of the normal range] or just above top end of TRT…" with the result that "your tendency toward frustration, aggression, and anxiety can by a small, or even not small, notable margin, go up". Dosing at this above-the-range level "is not replacement; that is enhancement. Nominally you say you are on TRT, but really you are on that good shit … that's not TRT anymore." [at 6min 17sec].

The expert points out that with regard to psychological changes, "not all males are affected to the same degree", and that for some individuals, psychological effects can occur at modest doses. "Some people with barely TRT levels of steroids like one and a half times the normal amount will Jekyll and Hyde into a different f___ing person" [at 17min 12sec].

Cautionary individual cases: Charlie Sheen

Testosterone/AAS users may experience psychological changes when they alter their dosing regimen from what may have been prescribed by a physician. It is easy to change dosing, and it is common for patients to increase it because "it makes you feel good".

In 2016 the actor Charlie Sheen ascribed his tumultuous behavior on air in 2011 to exogenous testosterone: "I was taking a lot of testosterone cream and I think I went too far with it … It was, kind of, like, a borderline, not a 'roid rage, but a 'roid disengage."

In his autobiography published in September 2025, Sheen writes: "What I chose not to quit was the testosterone cream that I was slathering on in mind-altering gobs like a fukken Pond's commercial. After all, it was 'legal.' I'd been using it to get my body back into shape, not knowing that at the same time, I was being shape-shifted. That drug is known to metabolize into the identical psych profile an anabolic steroid will produce. Anyone who bore witness to the raging demon I melded with—like a remake of Altered States—will hopefully glean some clarity for what my state of mind was up against." (*The Book of Sheen: A Memoir,* by Charlie Sheen.)

Cautionary individual cases: Matthew Perry

Actor Matthew Perry's death in 2023 was determined by the L.A. County Medical Examiner to be due to the "acute effects of ketamine", with contributing factors including "drowning, coronary artery disease and the effects of buprenorphine (used to treat opioid use disorder)". After many years of struggling with substance abuse, at the time of his death he was reported to have been "clean" for 19 months, but undergoing ketamine therapy for depression. He was reported to be hostile and difficult during this period, and "known to punch walls, flip tables and throw things during angry outbursts". According to the medical examiner's final report, the sole interviewee, who from the context appears to have known him well, said Perry "was also getting testosterone shots, which she believes were causing him to be 'angry and mean' for the last couple weeks".

Ketamine during surgical anesthesia is known to depress plasma testosterone levels for at least a week. Exogenously administered testosterone in the setting of ketamine use might therefore cause pronounced swings in testosterone levels and concomitant mood swings.

The autopsy report on Perry includes toxicology tests for approximately 20 drugs, both prescription and illicit, as well as standard chemistries. There was no reported testing for testosterone or its metabolites, which probably conforms to normal autopsy practice. However, with the increasing understanding of the range of psychological effects of exogenous testosterone, which can fluctuate in short time frames, there is a strong case to be made for examining testosterone levels in cases like this, where the circumstances and psychological status of the deceased are in question. Had Perry been ramping up his testosterone dosing like Charlie Sheen, and then with a feeling of invincibility decided he could swim even while on ketamine?

Cautionary individual cases: "Mr. A"

Exogenous testosterone/AAS can lead to violent behavior in a minority of users. A 2021 review of the research literature noted that "Anabolic-androgenic steroid (AAS) use has become a major worldwide substance use disorder, affecting tens of millions of individuals. Importantly, it is now increasingly recognized that some individuals develop uncharacteristically violent or criminal behaviors when using AAS."

For historical context, the report adds: "Starting in the 1980s, anecdotal reports first suggested that AAS might cause some individuals to develop 'manic' or 'hypomanic' syndromes, characterized by exaggerated self-confidence, hyperactivity, irritability, impaired judgment, aggression, violence, and rarely even psychotic symptoms such as paranoid and grandiose delusions."

The review offered detailed case studies as real-world examples, including this one:

> *At age 56, Mr. A secured a job as a bouncer at a gentlemen's club and wanted to "bulk up" quickly, stating that "in gentlemen's clubs, size and image is everything." Using substantial doses of AAS, he soon achieved a bench press of almost 495 pounds – a remarkable weight for a man of his age. While taking high-dose AAS, he reported that he felt "invincible," stating that "nothing could harm me, and I did not need to bow to anyone." He also developed marked irritability. As a strong supporter of President Trump, he became infuriated with what he perceived as the left-wing bias of the media. He covered his van with Trump stickers and posters, and became increasingly obsessed with left-wing "bias," to the point that he could think of little else. He resolved to do something to scare or deter prominent individuals on the political left. Accordingly, he obtained fireworks, created crude inoperable devices that looked like pipe bombs, and mailed them to numerous major public figures, including Barack Obama, Hillary Clinton, George Soros, and Robert De Niro. He reported that it never occurred to him that there might be serious consequences to these actions, because he felt "invincible." He even sent a boastful text to his AAS dealer with a link to a New York Times article regarding the package sent to George Soros' house.*
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> *The "mail bomber" story quickly made national news. A few nights later, as Mr. A was watching television, a federal official appeared on the screen and assured the public that the full resources of the United States government and the Federal Bureau of Investigation would be devoted to a manhunt for the culprit. In a sudden moment of shock, Mr. A realized, "good God, that's me!"*
>
> *Mr. A was quickly apprehended and incarcerated. With the abrupt discontinuation of AAS, his feelings of invincibility vanished, and he looked back with disbelief on what he had done. Although he had a history of a few petty crimes (e.g., shoplifting) in the past, he had never committed a crime even remotely comparable to mailing the decoy "bombs."*

An investigative reporter who has written extensively about testosterone/AAS abuse sums up its mental effects: "…there's no question, as I've seen myself firsthand, that juicers [of testosterone/AAS] end up not only with mood swings, runaway irritability, and a general inability to listen to anyone else, but they also tend to find their mental functioning—especially their memories—going through a certain Swiss-cheese transformation".

2. Testosterone/AAS use and misuse are widespread in the U.S. and rapidly increasing.

Testosterone use, both prescribed and non-prescribed, has increased rapidly in the United States. "Testosterone replacement therapy" and anabolic androgenic steroid use have expanded beyond their traditional medical indications, driven by commercial and cultural factors.

Data from multiple sources indicate a sharp rise in testosterone prescriptions. According to CBS News and The New York Times, conservative estimates show testosterone prescriptions increased from approximately 7.3 million in 2019 to more than 11 million in 2024. The Wall Street Journal reports that prescriptions currently exceed 800,000 per month, and that use of one generic form, testosterone cypionate, has increased at least eightfold since 2010.

The Mayo Clinic has stated that "although some men believe they feel younger and more vigorous if they take testosterone medications, there is little evidence to support the use of testosterone in otherwise healthy men." The American Urological Association estimates that up to one-third of men taking testosterone have never been diagnosed with testosterone deficiency, and therefore may not meet medical criteria for treatment.

Non-prescribed and illicit use

Reported prescribing data underrepresent total testosterone/AAS use. Non-prescribed and illicit acquisition are common. A 2022 review published in Frontiers in Endocrinology noted that "AAS are easily acquired through local dealers or the internet, even though their trade, and sometimes also their use, is illegal in many countries."

Multiple investigations confirm widespread online availability of testosterone and related substances without a prescription. Renal & Urology News reported that anabolic steroids are easily obtained online in the United States, and a CBS News investigation (2019) described clinics prescribing testosterone to patients with normal hormone levels, citing profit motives and lack of regulation.

A former OB-GYN employee in Kentucky stated that testosterone was being prescribed to "patients with normal testosterone levels looking to turn back the clock", and that the practice was financially lucrative because it was "cash pay" and "easy money".

Commercialization and telehealth

Recent years have seen a rapid expansion of telehealth-based testosterone prescribing. According to the Wall Street Journal, motivational speaker Tony Robbins has invested in a telehealth testosterone provider and promotes the product on social media. The Vitamin Shoppe, a national retail chain, announced that its telehealth division now offers testosterone prescriptions.

Use among younger men

Marketing of testosterone products increasingly targets younger men. A medical marketing expert interviewed by Drug Topics in 2023 noted that "recent trends in advertising seem to be targeting a younger demographic," with some advertisements using "men in their late 20s—not traditionally a market who particularly needs TRT."

Younger men are also obtaining testosterone/AAS through illicit sources. An NBC News report described increasing use among young males, facilitated by social media influencers and online dealers. One of the main drivers of rapidly increasing testosterone/AAS use is men over 30 seeking a better physique and a "boost of maleness" that will relieve symptoms perceived as due to lower testosterone.

Distribution networks and enforcement actions

Illicit distribution is extensive. A 2025 report from TribLive described a state and federal law enforcement raid in Hempfield, Pennsylvania, that disrupted a steroid manufacturing operation "raking in millions of dollars". Authorities seized thousands of vials of steroids with an estimated street value of $200 each. The laboratory was located in a suburban home.

A former testosterone/AAS dealer convicted in 2015 stated in a 2025 interview [at 34sec] that he had served approximately 20,000 customers before his arrest. After release from prison, he established an online "customized testosterone treatment" service operating in 34 states that promises "Your products are shipped and will arrive within days".

Global and demographic context

Increases in testosterone/AAS use have also been reported internationally. A 2025 BBC program [at 9min 15sec] reported that "global testosterone prescriptions have increased tenfold in the past decade", and the United Kingdom's national anti-doping agency found in 2019 that steroid use was "prevalent across society, not just amongst professional athletes".

In the United States, testosterone use among women is also increasing rapidly. The chief medical officer of a national telemedicine provider told NBC News the rise in middle-aged female patients seeking testosterone is "almost like an epidemic." A medical expert on the subject says [at 1min 10sec] "It's all over social media, TikTok influencers, medical spas, almost every naturopath" despite there being no FDA-approved indication for testosterone replacement in women. She adds, "If you get too high a dose of this trendy testosterone replacement, and your voice deepens, even if you stop that testosterone, it may not necessarily go back." [at 2min 57sec]

A recent New York Times article on the tidal wave of testosterone use in women gives clues to the psychological effects that extend beyond increased libido. One 55-year-old woman "went on high-dose testosterone on the advice of a friend who promised it would help with her general fatigue. Right after she got her first dose, her family noticed that she was considerably more opinionated than usual and would argue her points with a fierce intensity. 'My daughter told me at one point I was acting like a teenage boy,'" the woman said.

Another woman in the article said "the testosterone made her so irritable, so easily annoyed, so frankly disgusted by the failures of mankind, and especially her own man, her husband, that she couldn't bring herself to have sex with him. 'I wanted to have sex with my husband,' she said. 'I was just too pissed off at him to do it.'"

In another case, it took "several months of feeling uncontrolled rage toward her husband" for a woman on a high dose of testosterone "to realize that although her marriage was not perfect, it was the testosterone that was driving her fury".

These examples of testosterone-induced argumentativeness, disgust, denigration and rage parallel those observed in men, and can be expected to have effects that extend beyond the bedroom and into the public sphere, potentially altering decisions that have political import.

3. The Trump administration has in its entourage and among its close supporters many users and promoters of exogenous testosterone/AAS.

Robert F. Kennedy Jr

Robert F. Kennedy Jr, Trump's Secretary of HHS, stated in 2023 that he takes "testosterone replacements", after a widely circulated video posted on Twitter (and posted by Kennedy himself on his Instagram) showed him shirtless doing pushups at Gold's Gym at Venice Beach. Kennedy's physique was unusually muscled for a 69-year-old. Despite the disclosure that he was on "testosterone replacements", Kennedy denied he was on steroids. In December 2024 he posted another Instagram video of himself, shirtless and buffed, working out in a gym.

Experienced observers of the testosterone/AAS field think this is an incomplete explanation for his accentuated musculature at age 69-70 (Kennedy is now 71). One expert explained, "What Kennedy is doing, perhaps out of ignorance, is failing to mention that testosterone is the basic anabolic steroid. The two terms [testosterone and steroids] refer to the same substance. Testosterone can also be modified to intensify either muscle-building or androgenic (male sex traits) effects. The claim that it's not 'steroids' because a doctor has prescribed it is simply a lame alibi that is intended to gentrify the image of the anabolic steroid the doctor has given him. Kennedy wants the effects without the image problem anabolic steroid abuse has created, and he has enlisted the doctor as a kind of character reference for himself."

A veteran journalist who has written extensively about testosterone/AAS abuse goes further: "Put simply, it's all about dosage. Think of the late broadcaster Rush Limbaugh on opioids: Take a modest dose, as prescribed by your doctor, and it's health care; gobble pills like candy, and you've become a drug abuser. To this observer of the steroid scene, Kennedy gives every indication of being in the latter category and expecting the prestige of his last name, age, and wealth to shield him from scrutiny."

Kennedy is not the only member of Trump's cabinet who has made a public demonstration of his ability to do push-ups and has posted himself shirtless on social media. Defense Secretary Pete Hegseth has done so many times, and his Instagram posts include a promotion for one of his books that is simply a video of his right biceps contracting into a Schwarzenegger-esque bulge. There have been no public reports that he uses testosterone/AAS. In August 2025 Hegseth bested Kennedy in a shirts-on competition involving push-ups and pull-ups that was posted on TikTok.

A testosterone user sets an inflammatory tone in the Oval Office

In the unprecedented Oval Office bullying of Ukrainian President Zelensky in February 2025, behaviors were on display that match classical testosterone/AAS effects, which include "increases in aggression, increases in disagreeableness and probability of confrontation" [at 6min 42sec], "exaggerated sense of self-righteousness" [at 6min 30sec], and "You become someone who thinks more about where you stack up in the dominance hierarchy in a way that you take affronts and slights more poorly than otherwise" [at 1hr 50min]. Given the extreme nature of the on-air belittling of Zelensky that day, and the testosterone inflection of the current administration (see below), it is reasonable to ask whether the behavior of the belligerents was partially the result of exogenous testosterone use, particularly if the substance had been dosed shortly before the encounter, since testosterone administration can "rapidly (within 60 minutes) potentiate aggressive behavior".

At least one of the men present at that Oval Office meeting has publicly stated he takes testosterone. Brian Glenn, a Maga-booster and Trump-preferred White House correspondent for the conservative media outlet Real America's Voice, a month after the fateful Zelensky meeting, disclosed on a broadcast that he is on testosterone [video at 35sec] and that testosterone and allergies, not alcohol, account for his appearance. "Yes," he said, "I have allergies, and yes, testosterone will puff your face up," he griped onscreen. "I'm glad the world now knows I take testosterone." (Glenn is also the boyfriend of Marjorie Taylor Greene, the far-right politician and conspiracy theorist.)

It was "Glenn's comments on Mr. Zelensky's clothing that ignited the furious row" between Vance, Trump and Zelensky in the February Oval Office meeting according to the BBC [at 48sec].

In the meeting, just after Zelensky spoke about the need to preserve freedom and democracy and to rescue the 20,000 Ukrainian children who had been "stolen" by Russia, and noting that Putin that very day was launching ballistic missiles that hit schools and hospitals, Glenn said in a hostile voice, "Why don't you wear a suit?" [Yahoo News video at 4sec]

Glenn added: "A lot of Americans have a problem with you not respecting the dignity of this office", exhibiting a classic self-righteous fixation on dominance hierarchy that is common with elevated testosterone. A few minutes later Trump pointed at Glenn and said to Zelensky, "I think he's a great guy, by the way" [C-SPAN video at 22min 58sec].

Glenn was afterward dubbed "The Maga reporter whose humiliation of Zelensky sparked a geopolitical crisis" by The Telegraph as reported by Yahoo News.

Later in the meeting, Vance launched into an amplified display of dominance hierarchy. While aggressively pointing his finger at Zelensky he said in a raised voice "Do you think it's *respectful* to come to the Oval Office of the United States of America and attack the administration that is trying to prevent the destruction of your country?" [C-SPAN at 42min 51sec] No such attack is evident in what Zelensky said in the meeting. So as not to be outdone by his VP, Trump then piled on in a similar vein, also in a raised voice: "What you're doing is very disrespectful to this country." [C-SPAN at 44min 1sec] Trump's tirade then turned to disparaging previous administrations and complaining about how "Putin went through a hell of a lot with me", "phony witch hunts", etc.

At a subsequent Oval Office meeting in August 2025 that was more cordial, Trump pointed to Maga reporter Brian Glenn with a smile and said to Zelensky "That's the one that attacked you last time" [BBC video at 1min 4sec].

Testosterone proponent Joe Rogan delivered the vote for Trump

Joe Rogan, the popular podcaster and proponent of testosterone supplementation (he started at age "37/38"), was asked on a podcast what Trump had whispered in his ear when they hugged at a raucous UFC event in March 2025. Rogan replied "He basically said I won him the election." Indeed, it might be true.

Rogan, who at the time had more than 18 million YouTube subscribers and more than 14 million followers on Spotify, gave his endorsement to Trump on the eve of the November 2024 election. Trump's campaign had placed an emphasis on appealing to young men and to capturing the "manoverse" or "manosphere" more generally and getting them to the polls. Men account for almost 80% of Rogan's audience, half of whom are between the ages of 18 and 24. Trump, who was at a rally when Rogan declared his backing, announced "It just came over the wires that Joe Rogan just endorsed me, is that great. Thank you, Joe. That's so nice."

Theo Von, another pro-Trump podcaster and major influencer in the manoverse who has also attended UFC events with Trump, has described [at 12sec] "doing steroids" for bodybuilding when he was younger, and has also "tried testosterone replacement" more recently, which he said "gives you so much virility" [at 13sec] and "it just brings your body to life"; nonetheless he said "I don't think I'm gonna take it any more".

Mike Cernovich, the far-right Trump booster, conspiracy theorist, "male supremacist" and manosphere influencer, has indicated he takes testosterone. In 2021 he posted a link to an article on taking human chorionic gonadotropin (HCG) along with testosterone replacement therapy (TRT) and commented: "If you're going on TRT, this is a good read. Personally I run test only, but if you want kids, then you need HCG. I decided I wanted a third, so having to cycle off test isn't fun." "Cycling off testosterone" is indeed unpleasant for many users; it can cause mood swings, depression and other psychological changes.

The proliferation of celebrities and sports stars using supraphysiologic testosterone/AAS to beef up their bodies, many of whom deny it, has spawned a mini-industry of outing them as "juicers". Joe Rogan has called out "The Rock" Dwayne Johnson and Chris Hemsworth [at 50sec] as likely using testosterone/AAS, and thinks "high-profile stars should now start telling the truth about their substance use". Action star Frank Grillo recently had a similar message regarding Hollywood body transformations, saying "…none of those are natural bodies… We all know what they're doing. They might not want to say it but they all do it. Everybody."

Given the increasing overlap between the worlds of celebrity and politics, it will be surprising if this type of outing does not extend to political figures.

Testosterone as a surrogate for masculinity has also taken on an elevated status among some strains of evangelical Christians and Christian nationalists, with proclamations that "Christian Men Must be Manly", and "Jesus was a man—and a manly one at that! … He was a man with testosterone and aggression."

Broligarchs may be under the influence

It appears that some of the Broligarchs are susceptible to the allures of topping up testosterone levels. Jeff Bezos' surprising turn toward Trump may have coincided with testosterone/AAS use; Joe Rogan has said he thinks Jeff Bezos improved his physique by using "hormone replacement therapy", leading to a transformation into what the Wall Street Journal wrote is "a buff Bezos—jacked arms bulging, eyes hidden by sunglasses—looks less like an aging billionaire than a billionaire's menacing bodyguard".

A widely followed bodybuilder and fitness expert, seeing how Mark Zuckerberg's body was recently transformed in less than a year, says he thinks Zuckerberg is on "hormone replacement therapy" [at 9min 40sec]. The same expert also concluded after reviewing the body transformation of Jeff Bezos, "He's not natural." [at 1min 39sec]

In September 2022 Elon Musk "amplified a post … that called for democracy itself to be replaced — with a group of 'high status males.'" Three months later he posted on X.com "testosterone rocks ngl", which sparked thousands of comments and 157,000 "heart" likes, as well as a spate of applauding remarks such as "Hell yea Elon".

In noting "the caravan of billionaires and tech titans who trekked to Mar-a-Lago to pay their respects", The Wall Street Journal focused on Bezos as one of "a coterie of fellow tech lords who appear to have blown with the Trumpian wind". But the WSJ didn't leave out the founder of Meta: "Outwardly, the chain-wearing Zuck appears to have undergone a MAGA bro makeover." These and other moguls seem to have taken the metaphorical "red pill"— jargon adopted from the movie The Matrix to refer to a perceived awakening to Trump-aligned Maga-style views. The "red pills" might, in actuality, be injections— injections of testosterone.

The Trumps promote the "steroid Olympics"

Donald Trump Junior's investment fund is backing and promoting the "Enhanced Games", dubbed the "steroid Olympics" by many media outlets because it is intended to allow the use of performance-enhancing drugs, including testosterone/AAS. The "Enhanced" website features a portrait photo of Trump Junior as well as a promotional video with President Trump onscreen saying "The impossible is what we do best". (The founder of the Enhanced Games, Aron D'Souza, even invokes the name of Trump's HHS Secretary, RFK Jr. "'He takes enhancements himself,' D'Souza says of Kennedy. 'He is very pro–human enhancement.'")

Wired magazine writes that "At first it was dismissed as a crazy joke. Making the Enhanced Games a reality needed a Peter Thiel posse, a couple of retired swimmers, some MAGA money, and a whole lot of drugs." Joe Rogan, ever part of the Trump orbit, has also praised it. Trump Junior makes the Maga connection explicit on the

Enhanced Games website with a quote accompanying his photo: “This is about excellence, innovation, and American dominance on the world stage - something the MAGA movement is all about.”

The most prominent athlete to have announced he will participate in the Enhanced Games (if they actually occur) is a former swimming Olympian from Australia, who has said that testosterone injections are “the base” of his enhancement regimen. Swimming’s world governing body, World Aquatics, released a statement of its stance on the proposed event: “The Enhanced Games are not a sporting competition built on universal values like honesty, fairness and equity: they are a circus, built on shortcuts.” More broadly, Enhanced Games “has been criticized for endangering athletes’ health and undermining fair play”. The games’ promotion makes visible a cultural shift underway: what once counted as cheating is now marketed as progress.

Putin and others?

Testosterone/AAS use appears to be lower in other countries compared to the U.S., perhaps excepting the U.K., with use in Europe on the rise. But no doubt it is accessible to elites and government leaders, particularly of authoritarian countries, should they wish to use it even if it is against the law, given their ability to act with impunity. A list of aging male authoritarian leaders who are increasingly displaying aggression and dominance hierarchy obsessions could easily be drawn up. Intelligence agencies should scrutinize whether their behavior is modulated by testosterone/AAS use.

David Owen, the medically trained former U.K. foreign secretary, writes that Putin is now showing all the hallmarks of “hubris syndrome” and suspects that Putin is on corticosteroids, and may also be on anabolic steroids, and notes that “anabolic steroids can heighten a person’s aggression”.

In February 2025 former Brazilian president Jair Bolsonaro, nicknamed “Trump of the Tropics,” disclosed on a TV program that he used implanted “hormonal chips” (most likely testosterone/AAS pellets) that last for six months, “to improve sex performance”. Although testosterone treatment is approved in Brazil for specific medical conditions, the implanted forms of testosterone are banned.

4. Testosterone/AAS use can shift the political preferences of individuals, and therefore the polity.

Some of the behavioral effects of testosterone/AAS might well be expected to translate into political preferences, especially on social issues. A 2009 placebo-controlled study showed that men with artificially raised testosterone were “27% less generous towards strangers with money they controlled” and that “men with elevated testosterone were more likely to use their own money to punish those who were ungenerous toward them”.

Another double-blind, placebo-controlled study using a single dose of testosterone gel concluded that “Our findings provide causal evidence that testosterone reduces generosity in human economic decision-making” and that “testosterone administration consistently increased social discounting, that is participants became more selfish, particularly with regard to distant others (vs. close others)”.

A 2022 research report based on a 2011 study from the Claremont Graduate University showed that a relatively small dose of exogenously administered testosterone had an effect on political preferences. The research, later published in Brain and Behavior in 2025, titled “Testosterone Administration Induces a Red Shift in Democrats”, concludes: “Our results demonstrate that testosterone induces a “red shift” among weakly-affiliated Democrats. This effect was associated with improved mood. No effects were found of testosterone administration for strongly affiliated Democrats or strong or weak Republicans. Our findings provide evidence that neuroactive hormones affect political preferences.”

In an interview, the principal author of the study said “The size of the change in preferences was very large, indicating it was not a fluke.”

Of note is that the three foregoing studies employed *a single modest dose* of exogenous testosterone. Sustained dosing in the real world likely has more pronounced effects.

Trump's 2024 electoral win depended critically on four swing states that he won by only 0.87 to 2.20 percentage points (Wisconsin, Michigan, Pennsylvania, Georgia). The study "Testosterone Administration Induces a Red Shift in Democrats" noted above reported that "When weakly affiliated Democrats received additional testosterone, the strength of their party affiliation fell by 12% (p = 0.01), and they reported 45% warmer feelings towards Republican candidates for president (p < 0.001)". Given the widespread use of testosterone/AAS in the U.S. and the persuasive reach of influencers who themselves are "under the influence" of testosterone/AAS intake, the use and abuse of testosterone/AAS may well have been decisive in the election.

A 2025 study of internet searches regarding "testosterone" using Google Trends showed a surge in the early 2010s followed by a plateau for several years, and then a doubling in searches since 2020. The study also found that a rise occurred in all fifty states, and that "There is a strong correlation between testosterone search activity and Republican voter share: each of the top five states voted nearly 60% Republican in the 2024 presidential election, while bottom-ranked states saw some of the lowest Republican voter shares." (Internet search interest does not indicate use.)

There should be further investigations into the effects of testosterone/AAS on behavior and attitudes that have political and moral dimensions. For example, using the parameters of the "moral foundations theory" developed by Jonathan Haidt and others, does testosterone/AAS dosing shift an individual's set-point for one or more of the six foundational "modules": care/harm, fairness/cheating, loyalty/betrayal, authority/subversion, sanctity/degradation, liberty/oppression?

5. Testosterone/AAS abuse is documented among some of the January 6 Capitol attackers, and may play a role in the marked rise in violence and aggression in politics and the public sphere.

A convicted January 6 attacker injected steroids to prepare for the attack on the Capitol. According to prosecutors, "He began taking steroids in the weeks leading up to January 6, so that he would be 'jacked' and ready because, he said, someone needed to 'hang for treason' and the battle might come down to hand-to-hand combat." In November 2020 he told a Facebook friend "I just bought 2,000 dollars worth of steroids. When it happens I'm going full retard…" He tried to recruit another friend on Facebook to join in the attack, writing "Come on bro. I got steroids…" At the Capitol, he assaulted officers and a photographer. When arrested in his Colorado hotel room, investigators found 94 vials of what appeared to be illegal injectable steroids; at his home in Maryland, investigators found a stockpile of firearms and ammunition. The felon was 54 years old at the time. He and almost 1,300 other convicted attackers were later pardoned by Trump. Through this and other actions, the Trump administration has created a culture in which behaviors typical of testosterone/AAS overuse are prized.

When the FBI raided the home of another alleged January 6 attacker, 43 years of age, they found vials of injectable testosterone, cocaine, and several firearms. In addition to charges related to the January 6 attack, he was charged with conspiring "to traffic cocaine and testosterone by acquiring controlled substances from his suppliers to distribute to friends and associates"; he claimed he was merely supplying himself and friends.

Another would-be Capitol attacker was arrested in DC by the FBI while in illegal possession of firearms including an assault rifle and hundreds of rounds of ammunition. He had texted violent threats including that he would run over "C__T Pelosi". Among the items seized in his hotel room by FBI agents was "a vial of injectable Testosterone Cypionate/Proprionate".

In a New York Times video documenting the events of January 6, members of the far-right extremist Proud Boys are shown marching to assault the Capitol; among them is a man wearing protective gear flashing "white power" hand signs. At one point he can be heard saying "Check out all this testosterone" [at 6min 6sec]. That statement may have been salient chemically as well as figuratively.

The prevalence of testosterone/AAS use among the Capitol attackers should be investigated. A detailed examination of court documents in the January 6 prosecutions may reveal other instances of misuse of testosterone/AAS and its potential contribution to the violent behavior of the January 6 mob.

Share

Rising testosterone use and abuse are correlated with rising aggression in the public sphere

The rapid rise of testosterone/AAS use and misuse in the United States has coincided with an increase in aggression and violence within the public sphere. While causation cannot be established on current evidence, the temporal association warrants further examination.

According to The Economist (June 20, 2025), attacks and threats against public officials have increased markedly, with the article characterizing recent assaults in Minnesota as part of "a worrying trend" of politically motivated violence. The Guardian (March 6, 2025) reports that threats against U.S. judges have reached unprecedented levels, citing federal data that document a steady rise in intimidation and harassment of members of the judiciary.

Multiple news outlets have documented the escalating threats against elected officials. In an article titled "'They're Scared Shitless': The Threat of Political Violence Informing Trump's Grip on Congress", Vanity Fair reported that North Carolina Republican senator Thom Tillis told people that the FBI warned him about "credible death threats" when he was considering voting against Pete Hegseth's nomination for defense secretary.

"Republicans on Capitol Hill are shying away from criticizing Donald Trump's policies over fears for their physical safety and that of their families, a Democratic member of Congress has said," according to The Guardian.

A Reuters investigation found that "Judges in Trump-related cases face unprecedented wave of threats".

These incidents form part of a wide pattern of heightened hostility in political discourse and action.

Broader indicators of aggressive behavior

Beyond overt political violence, various measures indicate increasing public aggression. The Federal Aviation Administration (FAA) reports a "disturbing number of incidents where airline passengers have disrupted flights with threatening or violent behavior." The FAA has strengthened enforcement policies to penalize "any passenger who assaults, threatens, intimidates, or interferes with airline crew members." These findings align with broader trends of "rage" incidents reported across multiple sectors of public life over the past decade.

Even golf

The wave of widespread aggressiveness has even engulfed previously genteel zones like the golf course. At the Ryder Cup in New York in September 2025, American attendees displayed a grotesque belligerence never before seen in the 100-year-old history of the match between British and American golfers. Large numbers of heckling American "fans" shouted obscenities and crude insults about British players' families. One of them threw a beer can/cup at the wife of Britain's team captain.

American golfing legend Tom Watson reacted by saying "I'd like to apologise for the rude and mean-spirited behaviour from our American crowd at Bethpage. As a former player, captain and as an American I am ashamed of what happened."

Implications for policy and research

Given the concurrent rise in testosterone/AAS use and in documented public aggression, there is a need for systematic study of potential causation. Routine inquiry into testosterone/AAS use among individuals involved in violent or aggressive incidents could yield valuable epidemiological data. Current national health surveys and law enforcement databases do not consistently record such information.

6. Testosterone/AAS misuse is widespread among U.S. law enforcement officers, and a growing problem within the U.S. military and its special forces.

“Dopers in uniform”

Empirical and anecdotal evidence shows that testosterone/AAS abuse is not confined to civilian populations but extends far into U.S. law enforcement ranks.

In Dopers in Uniform: The Hidden World of Police on Steroids (2017), John Hoberman argues that steroid use by police officers may contribute to a “steroidal” policing style, characterized by muscular physiques and an increased readiness to employ force. Hoberman conservatively estimates that there are thousands, “probably tens of thousands,” of officers who use testosterone/AAS, and describes a “Blue Wall of Silence” as a structural barrier against internal scrutiny of doping practices.

A U.S. Department of Justice–sponsored guide notes that “anabolic steroids have become popular within law enforcement communities for the drug’s ability to enhance physical strength,” while also documenting a spectrum of short- and long-term physiological and psychiatric risks (e.g. hypertension, mood disturbances, hepatic damage).

The article “Anabolic Steroid Use and Abuse by Police Officers: Policy & Prevention” outlines how some police agencies (e.g. in Phoenix, Arizona) have attempted or considered internal policies to detect and deter officer steroid use. However, Phoenix’s random testing protocol targeting anabolic steroids was discontinued in 2015, suggesting institutional resistance even where detection mechanisms once existed.

Legal prosecutions of officers

Law enforcement officers have appeared as defendants in a nontrivial fraction of U.S. testosterone/AAS trafficking cases. In a 2018 study of U.S. district court cases (2013–2017), approximately 19 percent of trafficking defendants were former law enforcement officers.

In New Jersey, reforms in the early 2010s followed lawsuits alleging excessive use of force by officers under the influence of steroids—prompting the state to adopt random drug testing within policing ranks.

A prominent 2025 case occurred in Antioch, California, where active-duty and former officers were investigated for distributing illegal steroids to colleagues, leading to the conviction of a police officer for conspiracy to distribute anabolic steroids. Another police officer pleaded guilty for his role in the conspiracy.

In another high-profile case in July 2025, a 39-year-old Customs and Border Protection agent in Tucson was indicted on 24 felony counts including child trafficking and drug charges related to use and sale of testosterone and another anabolic steroid.

“Ticking time bomb”

As noted earlier in this essay, the possible behavioral effects of testosterone/AAS are well documented in clinical and forensic literature. Non-prescribed testosterone/AAS use has been associated with mood volatility, increased aggression, hostility, impaired judgment, and, in some instances, violent criminal acts.

In an interview, the author of Dopers in Uniform said “The police establishment does not carry out anything like effective steroid testing, and would not publicize the data if they had it.” He adds, “There is a ticking time bomb among aggressive police officers who are abusing these drugs.”

Watching the now frequent citizen videos of Trump’s masked ICE agents slamming people to the ground, as one of eight burly agents in this video does to a 15-year-old girl in the Chicago area, it seems the time bomb is already exploding. ICE agents and other law enforcement officers who are unnecessarily violent should be disciplined and systematically investigated for possible testosterone/AAS abuse.

Testosterone/AAS abuse in the U.S. military

In parallel with the rising prevalence of testosterone/AAS misuse in U.S. law enforcement, similar patterns have emerged within the armed forces. Evidence from investigations, medical literature, and informal testimony suggests that non-prescribed testosterone/AAS use is common within multiple branches of service, particularly in elite and special operations units.

One of the most publicized cases occurred in 2022 during a Navy SEAL selection course. Of 210 candidates, approximately 40 were found either to have tested positive for or to have admitted using performance-enhancing substances, including anabolic steroids and other drugs, in violation of Navy regulations. The incident followed the death of a SEAL candidate whose car contained vials of testosterone and human growth hormone, along with used syringes. A subsequent investigation by the Department of Defense and Naval Special Warfare Command criticized failures in leadership oversight and medical screening, prompting the introduction of random steroid testing across special operations units in 2023.

Despite these policy changes, accurate prevalence data remain limited. Self-reported accounts from military discussion forums and subreddits indicate that testosterone/AAS use is often regarded as an “open secret” within some units, tolerated so long as it does not attract external scrutiny. This cultural permissiveness mirrors the informal norms observed in civilian law enforcement. Moreover, testosterone/AAS prescriptions in Department of Defense medical facilities rose sharply between 2007 and 2011—from 19,000 to over 45,000 annually— with annual increases averaging 33% for 35- to 44-year-olds, underscoring broader institutional familiarity with testosterone as a performance-related intervention.

A criminal offense

Testosterone/AAS misuse in the military constitutes a criminal offense under Article 112a of the Uniform Code of Military Justice. The article prohibits the wrongful use, possession, manufacture, distribution, or introduction of controlled substances, including anabolic steroids and testosterone, which are classified as Schedule III under federal law. Conviction under Article 112a may result in dishonorable discharge, reduction in rank, forfeiture of all pay and allowances, and confinement for up to five years, depending on the nature of the offense. In cases involving distribution or manufacture, confinement may extend to 15 years.

Behavioral and societal risks

Clinical and forensic research consistently associates supraphysiologic testosterone/AAS exposure with irritability, aggression, mood volatility, and impaired impulse control. Within a military context—defined by stress, hierarchy, and authority—such effects pose risks to operational judgment and unit cohesion. A Military Medicine commentary warned that chronic testosterone/AAS use among Special Operations Forces “may be associated with depression, mania, hypomania, increased anxiety, irritability, extreme mood swings, high levels of aggression, and paranoia,” all of which threaten “unit security.” These behavioral risks are compounded by the physical idealization prevalent in elite units, where performance and endurance are valorized and the pressure to conform may normalize illicit enhancement despite official prohibition.

Beyond individual impairment, testosterone/AAS misuse has broader institutional and civic implications. Elevated testosterone/AAS levels have been linked to dominance orientation and authoritarian attitudes—traits that, in aggregate, could alter patterns of loyalty and obedience within a force bound by constitutional hierarchy. If widely present, such drug effects may reinforce allegiance to immediate authority or charismatic leadership rather than to abstract legal norms. In domestic deployments, heightened aggression and emotional reactivity could increase the risk of excessive force against civilians. Moreover, initiation of testosterone/AAS use during service may shape post-service identity, reinforcing hypermasculine or hierarchical worldviews with potential downstream effects on civic participation and political alignment.

7. Measures must be taken to expose and mitigate the misuse of

testosterone/AAS.

Congress and the executive branch should establish a comprehensive framework modeled on anti-doping in sports, federal ethics disclosure, and workplace drug-testing standards. Senior officials—including members of Congress, justices, agency heads, and political appointees—should provide annual confidential attestations and timely disclosures of any testosterone/AAS use, with allowances for documented medical necessity under specialist supervision. For those in security-sensitive roles, random and for-cause testing should be implemented using existing federal workplace drug-testing protocols, expanded to include anabolic agents. The Department of Defense's list of prohibited substances should serve as the civilian baseline, updated as new analogs emerge.

Medical reporting policies should clarify that health professionals may disclose androgen misuse posing a credible public risk. Whistleblower protections must extend to employees who report undisclosed use or deceptive promotion by officials, ensuring confidentiality and protection from retaliation. For positions of coercive authority, penalties should parallel those in the military, where unauthorized steroid use can result in loss of pay, demotion, or imprisonment. Annual anonymized reports summarizing testing data, exemptions, and disciplinary outcomes would maintain transparency and institutional trust.

More broadly, reducing the political and social effects of testosterone/AAS misuse will require coordinated medical, regulatory, and cultural measures. Public-health authorities should track prescriptions and diversion more closely, mandate clinician education, and tighten oversight of telehealth providers that exceed medically indicated dosing. A national prescription-monitoring system could identify surges in androgen distribution, while standardized toxicology testing in violent-crime cases would clarify links between hormone misuse and aggression. Public campaigns should counter the normalization of testosterone/AAS misuse by presenting accurate information about its psychological and behavioral risks, and by promoting healthier models of self-regulation rather than chemically induced aggression.

8. A dark lesson from the Nazi era.

There is a prominent example of psychoactive drugs playing a major role in the self-destruction of a society: Nazi Germany. Under a "stimulant decree" made just before the 1940 Blitzkrieg through the Ardennes, the German military routinely used the methamphetamine Pervitin at all ranks throughout World War II. The German army and air force were supplied with 35 million pills of Pervitin from April through July 1940 alone.

The title of a review of Norman Ohler's deeply researched 2015 book on the subject captures its findings: "Blitz: How Drugs Fueled the Rise and Fall of Nazi Germany".

Methamphetamine use was not confined to the German war machine. A reviewer in Psychiatric Times notes that "two premier historians of pharmacology—Stephen Snelders and Toine Pieters—have dubbed Nazi Germany after 1938 a 'methamphetamine dictatorship,' a society in which the drug was relatively ubiquitous." And, "all sorts of individuals—students, housewives, professionals of various kinds—were drawn to its ability to help counteract fatigue. And many others touted its ability to boost self-confidence." The confidence-boosting effect echoes that of testosterone/AAS.

Ohler writes: "Pervitin made it easier for the individual to have access to the great excitement and 'self-treatment' that had supposedly gripped the German people. The powerful stuff became a sort of grocery item, which even its manufacturer didn't want to keep stuck just in the medical section. 'Germany, awake!' the Nazis had ordered. Methamphetamine made sure that the country stayed awake. Spurred on by a disastrous cocktail of propaganda and pharmaceutical substances, people became more and more dependent."

As Ohler uncovers through his research, Hitler's personal doctor, Theodor Morell, routinely administered testosterone (as the German product Testoviron) to Hitler, as well as opioids, methamphetamines, cocaine, and other substances over the course of World War II.

In conclusion

The ability to manipulate crucial hormonal levels is another example of humans unleashing a new technology that brings perceived advantages but also the risk of damage to individuals and, when it is widespread and used by those in power, harm to human society itself. The threat posed by widespread misuse of testosterone/AAS must be recognized, exposed, and counteracted, especially when and where it endangers a society's stability and capability for good governance.

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